WHEELS AND TYRES 11

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GENERAL DESCRIPTION

Wheels

Three types of road wheel are available for the Transit model range.

Fig. 1A shows the 14×5½J pressed steel styled wheel as fitted to LCX (80 to 120 and 100L) variants. This wheel is available in two styles. The wheel is retained by conical wheel nuts covered by plastic nut caps, has a plastic centre cap, and on some variants has a bright metal trim ring.

Fig. 1B shows the 14×5½J pressed steel wheel with a twin offset and ventilated spider as fitted to LCY (130 to 190) variants. This wheel is retained by conical wheel nuts with left handed threads on left hand wheels and right handed threads on right hand wheels. On certain variants this wheel is fitted with a chrome plated cover. All the wheels on the LCY variants are of the same design.

Tyres

Radial ply tyres are fitted as standard equipment to all variants with a cross ply tyre as optional equipment on some variants.

Depending on model variant 185×SR14 Reinforced, 195×R14C (6PR), or 205×R14C (6PR) radial ply tyres are fitted as standard. The optional cross ply tyre is a 7.50×14 (6PR).

Details of tyre sizes together with the recommended inflation pressures for each variant are included in the Technical Data on Page 9.

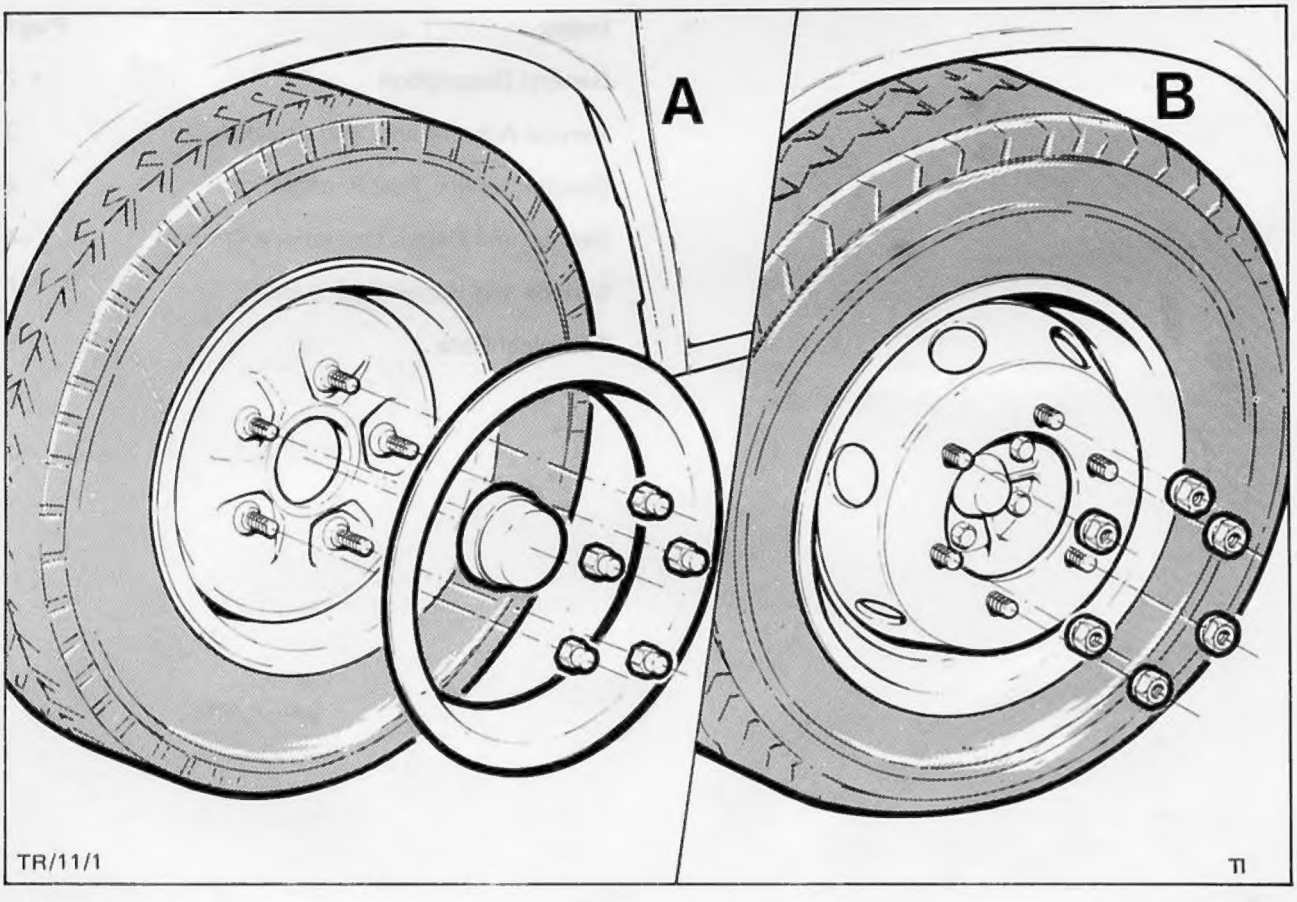

Fig. 1. Transit wheel types
A–Five stud variant wheel
B–Six stud variant wheel

SERVICE ADJUSTMENTS AND CHECKS

At specified service intervals the following items should be checked.

Tyre Pressures

The tyre pressures quoted under 'Technical Data' are 'cold' pressures. In this context, ambient temperature is considered 'cold' and the tyre is considered 'hot' after extended motoring at speed. Under certain extreme conditions of operation a tyre may require up to one hour before it can be considered 'cold', i.e. not warm to the touch as is usual after operation.

It is essential for safety that the recommended inflation pressures are always maintained.

Radial ply tyres may appear under-inflated at the correct recommended pressures shown in Technical Data. This is normal and they should never be inflated beyond the recommended pressures.

Tyre Wear

When tyre tread depth is less than 1 mm the tyre must be renewed (or earlier if required by local or national legislation).

If irregular wear is noticed, check the wheel bearings and steering/suspension joints for excess play. Also check the front suspension geometry and wheel balance.

In the later life of the tyres, it may be desirable to rebalance the wheels to compensate for tyre wear.

Wheel Nuts

Check the tightness of the wheel nuts. Refer to Technical Data.

SPECIAL SERVICE TOOL RECOGNITION

Tool	Tool Name
	No Special Service Tools Required.

JACKING THE VEHICLE

When undertaking repairs that involve jacking the vehicle it is important to ensure that only the correct jacking and support locations are used at all times. The following illustration shows the location points for positioning jacking equipment. Axle stands should always be fitted before working on a raised vehicle.

NOTE: The jack supplied with the vehicle is for emergency use only, e.g: changing a wheel at the roadside etc, and should **not** be used for general workshop applications.

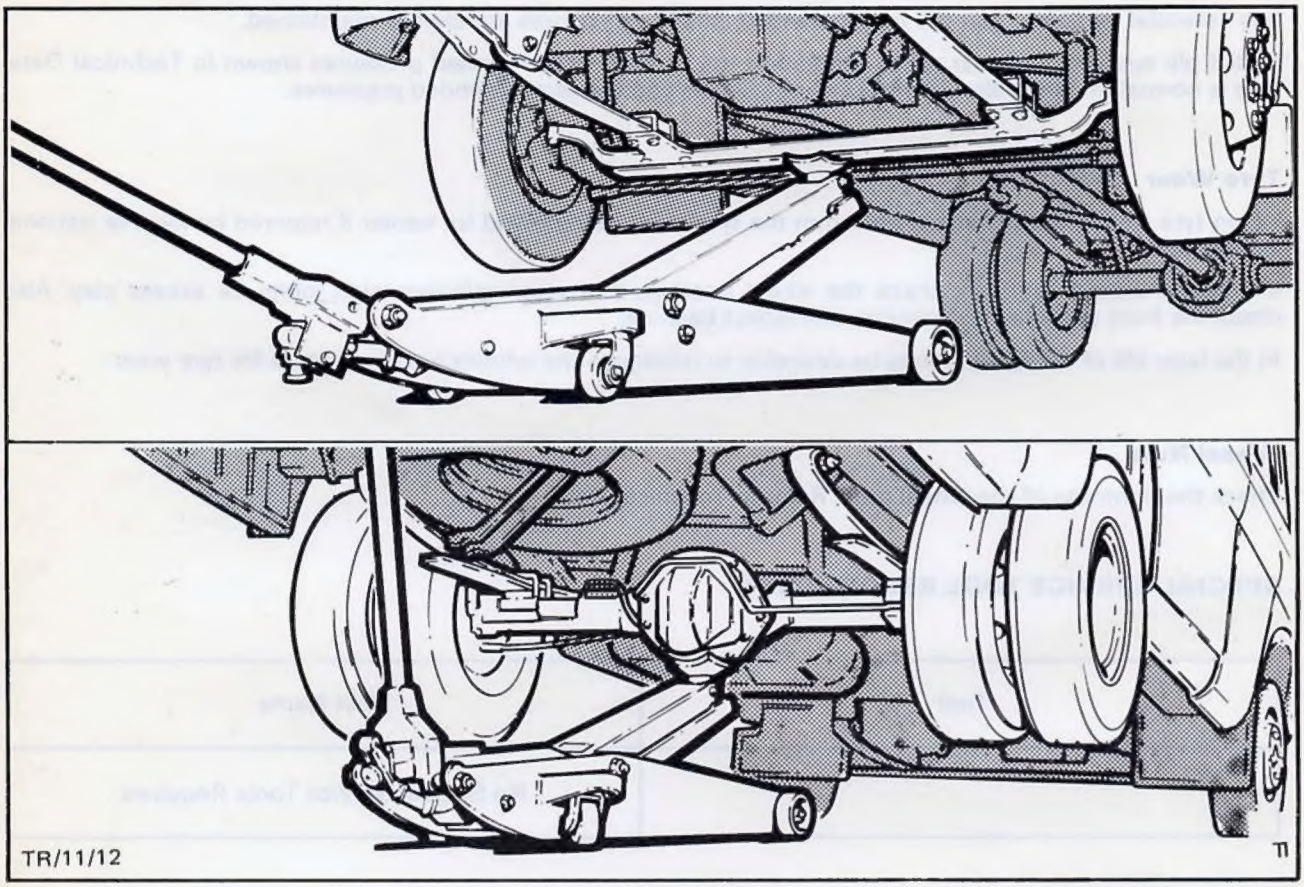

Fig. 2. Jacking locations

SERVICE AND REPAIR OPERATIONS – CONTENT

WHEELS AND TYRES		Described in this publication	Contained in Operation	Also applicable to certain variants in the following model range.					
				Fiesta	Escort '75 onwards	Taunus '76/ Cortina '77	Capri	Granada '78 onwards	Transit '77
11 122	Wheel assemblies – both front or both rear – balance (Includes static and dynamic balance)	X			X	X	X	X	X
11 211	Wheel assembly – remove and install	X			X	X	X	X	X
11 234 4	Wheel – replace	X			X	X	X	X	X
11 254 4	Tubeless tyre – replace	—	11 234 4		X	X	X	X	X

SERVICE AND REPAIR OPERATIONS

11 122 WHEEL ASSEMBLIES – BOTH FRONT OR BOTH REAR – BALANCE

Special Service Tools Required: None

It is important that the following is read and fully understood before commencing work on the vehicle. The method of balancing will vary for machines of different manufacture. For specific details refer to the equipment manufacturer's instructions.

Only FORD clip-on wheel weights should be used and it is recommended that these are located using a non-metallic hammer to avoid damaging the wheel.

A – Off the vehicle wheel balance – Front or Rear Wheels.

1. Remove wheel covers or nut covers, where applicable. Slacken wheel nuts securing wheels to be balanced. Jack up front, or rear of vehicle, as required, and fit chassis stands.

   NOTE: On six studded wheel variants, left hand wheels have left hand threaded nuts and right hand wheels have right hand threaded nuts.

2. Remove wheel to be balanced from vehicle. Remove centre cap, where applicable, and fit wheel to balance machine adaptor plate.

3. Locate wheel and hub assembly on balance machine positioning on spindle so that wheel rim just touches setting rod. Fig. 3. Lock wheel and hub adaptor onto spindle.

4. Remove bright metal trim ring if fitted, and remove any existing balance weights. Ensure tyre is inflated to correct pressure and that no large objects (e.g. stones) are wedged in tyre tread.

5. Spin-up wheel and balance in accordance with manufacturer's instructions.

6. Remove wheel from machine and refit onto vehicle. Refit trim ring and centre cap, where applicable.

   NOTE: On six studded wheel variants, left hand wheels have left hand threaded nuts and right hand wheels have right hand threaded nuts.

7. Remove chassis stands and lower vehicle to ground, finally tighten wheel nuts. Refit nut covers or wheel covers where applicable.

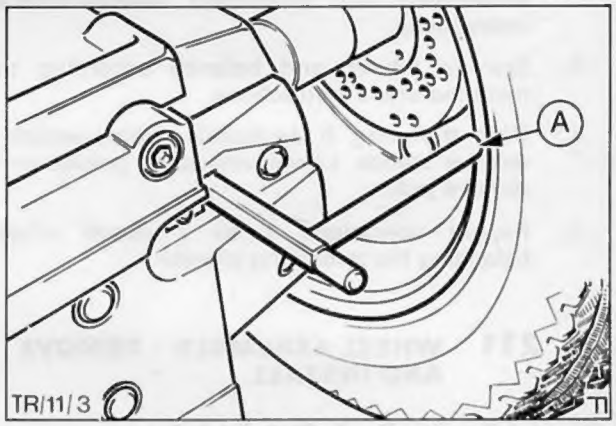

Fig. 3 Wheel in position on a typical off the vehicle wheel balancer
A – Setting rod

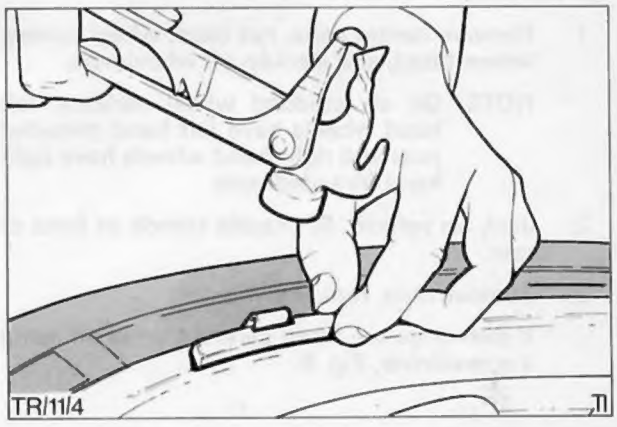

Fig. 4. Fixing balance weight to wheel rim

B – On the Vehicle – Front or Rear Wheels

1. Jack up front or rear of vehicle as required and fit chassis stands, leaving axle free.
2. Check wheel bearings, suspension joints, etc., for excess play and that tyres are correctly inflated.

   NOTE: It is impractical to balance the wheel successfully with incorrectly adjusted or worn wheel bearings.
3. For front wheels, position spin-up motor in correct position, relative to wheel to be balanced, Fig. 5.

   For rear wheels, vehicle engine should be used to drive wheels when balancing.
4. Remove trim ring, if fitted, any wheel weights present, and any large objects (e.g. stones) wedged in tyre tread.
5. Fit wheel adpator pick-up onto suspension in accordance with equipment manufacturer's instructions.
6. Spin-up wheel, and balance according to manufacturer's instructions.
7. Refit trim ring if applicable. Raise vehicle, remove stands. Lower vehicle to ground and remove jack.
8. Repeat operations 1 to 7 above when balancing the remaining wheels.

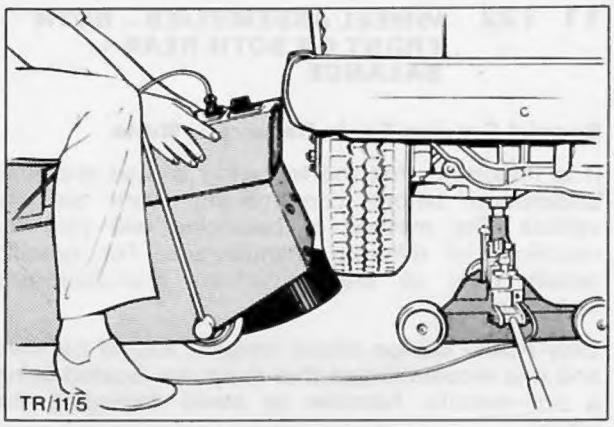

Fig. 5. Typical 'on car' balancer in position

11 211 WHEEL ASSEMBLY – REMOVE AND INSTALL

Special Service Tools Required: None

NOTE: When refitting twin rear wheels ensure inner wheel tyre valve is visible through outer wheel and that mating surfaces of wheels are clean.

To Remove

1. Remove centre caps, nut caps, wheel covers, where fitted, and slacken off wheel nuts.

   NOTE: On six studded wheel variants, left hand wheels have left hand threaded nuts and right hand wheels have right hand threaded nuts.
2. Jack up vehicle, fit chassis stands at front or rear.
3. Remove nuts, remove wheel(s).

   If trim rings are fitted carefully prise off using a screwdriver, Fig. 6.

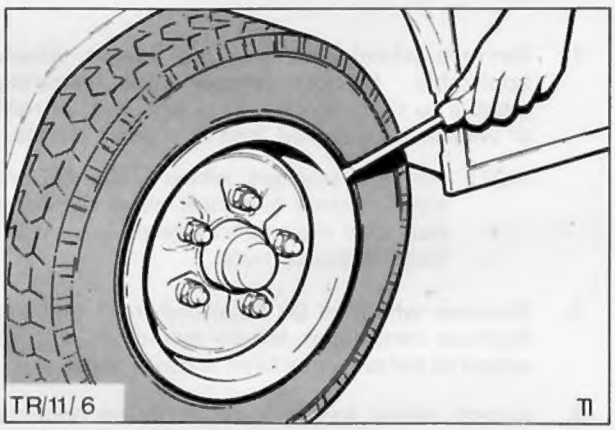

Fig. 6. Removing trim ring.

To Install

4. Refit wheel(s), fit nuts and semi-tighten.

   NOTE: On six studded wheel variants, left hand wheels have left hand threaded nuts and right hand wheels have right hand threaded nuts.
5. Jack up vehicle, remove chassis stands, and lower to ground.
6. Finally tighten wheel nuts and refit nut caps, wheel covers, and centre caps where applicable. Also fit trim rings where applicable.

11 234 4 WHEEL – REPLACE
(Wheel assembly removed)

GENERAL NOTES

(i) The type of equipment shown in this operation is of the 'semi-automatic' type using 'rim clamps' as compared with the type using a centre spigot to locate and retain the wheel.

(ii) Always lubricate tyre beads when removing and/or fitting tyre.

(iii) When tyres are being fitted to wheels, in order to avoid damge to the tyre bead they should be applied from the side of the wheel which has the narrowest ledge (i.e., distance from rim flange to edge of well).

When fitting a new tubeless tyre, a new snap-in valve should also be fitted. The valve is made to last the life of the tyre, but beyond that time fatigue of the valve body rubber is likely to impair the air seal at the rim hole.

(iv) When fitting Michelin radial ply tyres, always ensure that the red spot on the tyre wall is on the outside of the wheel.

Special Service Tools Required: None

1. Remove tyre valve core and break tyre bead, Fig. 7., on both sides of tyre.
2. Mount wheel assembly onto equipment.
3. Remove tyre from wheel equipment according to manufacturers instructions, Fig. 8. Cut off old valve assembly.
4. Remove wheel from equipment.
5. Place new wheel on equipment, Fig. 9, and ensure wheel clamps are fitted to wheel.

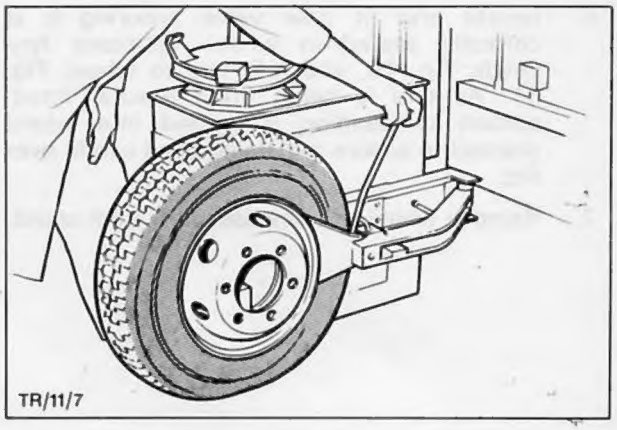

Fig. 7. Breaking tyre beads

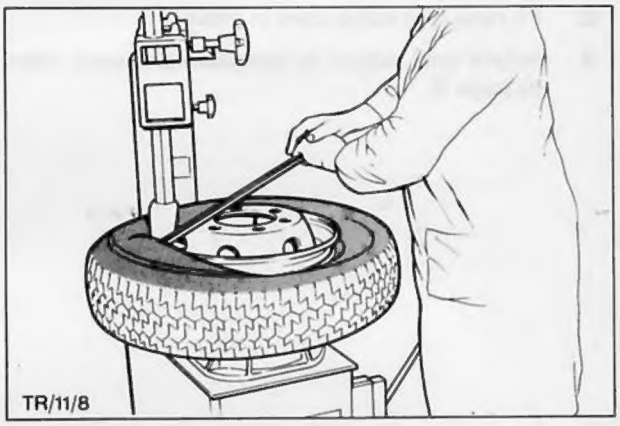

Fig. 8. Removing tyre

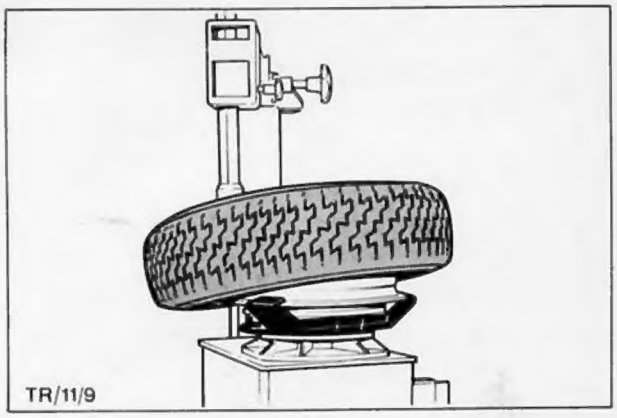

Fig. 9. Wheel in position on equipment showing rim clamps

6. Locate and fit new valve ensuring it is correctly seated in wheel. Lubricate tyre beads, Fig. 10, and refit tyre to wheel, Fig. 11. As tyre is being fitted ensure 'fitted' portion of beading is guided into wheel channel to ensure remaining bead can fit over rim.
7. Remove wheel and tyre assembly from stand.

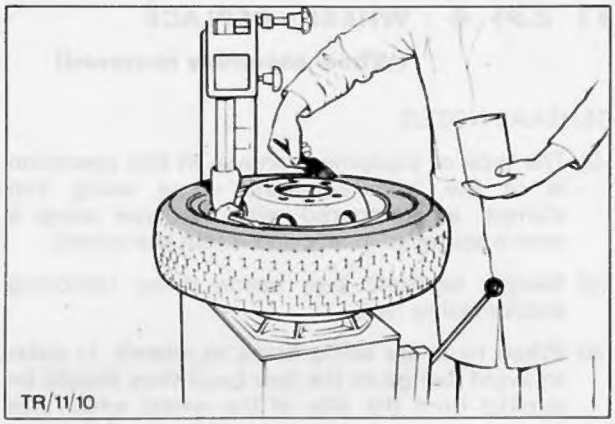

Fig. 10. Lubricate tyre beads before fitting tyre.

8. Fit new tyre valve core in valve.
9. Inflate tyre, adjust to specified pressure, refer to page 9.

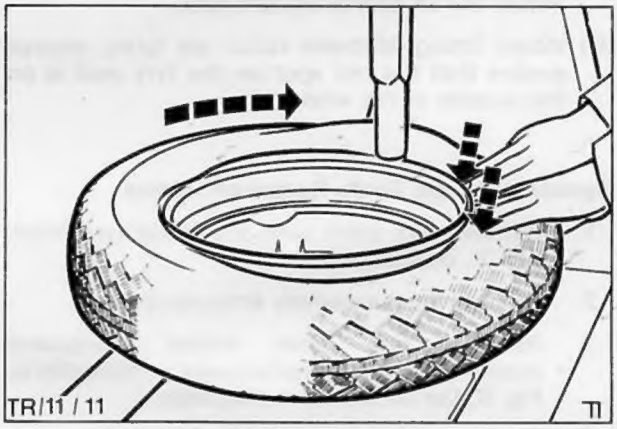

Fig. 11. Fitting tyre onto wheel.

TECHNICAL DATA

Recommended Tyre Pressures – (Cold) Bar or kgf/cm² (lbf/in²)*

Vehicle Type	Body Style	Tyre Size (Standard)	Pressure		Tyre Size (Optional)	Pressure	
			Front	Rear		Front	Rear
80 Petrol	Van or Combi	185×SR14R	2,5 (36)	2,9 (42)	7.50×14	2,0 (30)	2,0 (30)
80 Diesel	Van or Combi	185×SR14R	2,5 (36)	2,9 (42)	7.50×14	2,0 (30)	2,0 (30)
100 Petrol	Van	195×R14C	2,0 (30)	3,1 (45)			
100 Petrol	Combi	195×R14C	2,0 (30)	3,1 (45)	7.50×14	2,0 (30)	3,1 (45)
100 Petrol	S.C. Cab	195×R14C	2,0 (30)	3,1 (45)			
100 Petrol	D.C. Cab	195×R14C	2,0 (30)	3,1 (45)			
100 Petrol	Bus	185×SR14R	2,5 (36)	2,9 (42)			
100 Petrol	Bus	195×R14C	2,0 (30)	2,5 (36)			
100 Diesel	Van or Combi	195×R14C	2,5 (36)	3,1 (45)	7.50×14	2,5 (36)	3,1 (45)
100 Diesel	S.C. Cab	195×R14C	2,5 (36)	3,1 (45)	7.50×14	2,5 (36)	3,1 (45)
100 Diesel	D.C. Cab	195×R14C	2,5 (36)	3,1 (45)	7.50×14	2,5 (36)	3,1 (45)
115 Petrol	Bus	195×R14C	2,0 (30)	3,1 (45)	7.50×14	2,0 (30)	3,1 (45)
115 Diesel	Bus	195×R14C	2,5 (36)	3,1 (45)	7.50×14	2,5 (36)	3,1 (45)
120 Petrol	Van or Combi	205×R14C	1,6 (24)	2,9 (42)			
120 Petrol	S.C. Cab	205×R14C	1,6 (24)	2,9 (42)			
120 Petrol	D.C. Cab	205×R14C	1,6 (24)	2,9 (42)			
120 Petrol	Parcel Van	205×R14C	1,6 (24)	2,9 (42)			
120 Diesel	Van or Combi	205×R14C	2,0 (30)	2,9 (42)			
120 Diesel	S.C. Cab	205×R14C	2,0 (30)	2,9 (42)			
120 Diesel	D.C. Cab	205×R14C	2,0 (30)	2,9 (42)			
120 Diesel	Parcel Van	205×R14C	2,0 (30)	2,9 (42)			
100L Petrol	Van or Combi	195×R14C	2,0 (30)	3,1 (45)			
100L Petrol	S.C. Cab	195×R14C	2,0 (30)	3,1 (45)			
100L Diesel	Van or Combi	195×R14C	2,3 (34)	3,1 (45)			
100L Diesel	S.C. Cab	195×R14C	2,3 (34)	3,1 (45)			
130 Petrol	Van or Combi	185×SR14R	2,0 (30)	2,0 (30)	7.50×14	2,0 (30)	2,0 (30)
130 Petrol	S.C. Cab	185×SR14R	2,0 (30)	2,0 (30)	7.50×14	2,0 (30)	2,0 (30)
130 Petrol	D.C. Cab	185×SR14R	2,0 (30)	2,0 (30)	7.50×14	2,0 (30)	2,0 (30)
130 Petrol	Bus	185×SR14R	2,0 (30)	2,5 (36)	7.50×14	2,0 (30)	2,0 (30)
130 Diesel	Van or Combi	185×SR14R	2,9 (42)	2,0 (30)	7.50×14	2,5 (36)	2,0 (30)
130 Diesel	S.C. Cab	185×SR14R	2,9 (42)	2,0 (30)	7.50×14	2,5 (36)	2,0 (30)
130 Diesel	D.C. Cab	185×SR14R	2,9 (42)	2,0 (30)	7.50×14	2,5 (36)	2,0 (30)
130 Diesel	Bus	185×SR14R	2,9 (42)	2,0 (30)	7.50×14	2,5 (36)	2,0 (30)

*Bar and kgf/cm² are numerically the same value.

S.C. Cab – Single Chassis Cab Variant.

D.C. Cab – Double Chassis Cab Variant.

TECHNICAL DATA (cont'd)

Recommended Tyre Pressures – (Cold) Bar or kgf/cm² (lbf/in²)*

Vehicle Type	Body Style	Tyre Size (Standard)	Pressure		Tyre Size (Optional)	Pressure	
			Front	Rear		Front	Rear
160 Petrol	Van or Combi	185×SR14R	2,0 (30)	2,0 (30)	7.50×14	2,0 (30)	2,0 (30)
160 Petrol	S.C. Cab	185×SR14R	2,0 (30)	2,0 (30)	7.50×14	2,0 (30)	2,0 (30)
160 Petrol	Bus	185×SR14R	2,0 (30)	2,5 (36)	7.50×14	2,0 (30)	2,0 (30)
160 Diesel	Van or Combi	185×SR14R	2,9 (42)	2,5 (36)	7.50×14	2,5 (36)	2,0 (30)
160 Diesel	S.C. Cab	185×SR14R	2,9 (42)	2,5 (36)	7.50×14	2,5 (36)	2,0 (30)
160 Diesel	Bus	185×SR14R	2,9 (42)	2,5 (36)	7.50×14	2,5 (36)	2,0 (30)
175 Petrol	Van or Combi	185×SR14R	2,9 (42)	2,9 (42)			
175 Petrol	S.C. Cab	185×SR14R	2,9 (42)	2,9 (42)			
175 Petrol	Parcel Van	185×SR14R	2,9 (42)	2,9 (42)			
175 Diesel	Van or Combi	185×SR14R	2,9 (42)	2,9 (42)			
175 Diesel	S.C. Cab	185×SR14R	2,9 (42)	2,9 (42)			
175 Diesel	Parcel Van	185×SR14R	2,9 (42)	2,9 (42)			
190 Petrol	Van or Combi	195×R14C	2,0 (30)	2,6 (37)			
190 Petrol	S.C. Cab	195×R14C	2,0 (30)	2,6 (37)			
190 Petrol	D.C. Cab	195×R14C	2,0 (30)	2,6 (37)			
190 Diesel	Van or Combi	195×R14C	2,4 (35)	2,6 (37)			
190 Diesel	S.C. Cab	195×R14C	2,2 (33)	2,6 (37)			
190 Diesel	D.C. Cab	195×R14C	2,2 (33)	2,6 (37)			

*Bar and kgf/cm² are numerically the same value.

S.C. Cab = Single Chassis Cab Variant D.C. Cab = Double Chassis Cab Variant

NOTE: The tyre pressures shown above should be used when the tyre is cold, i.e., when approximately at ambient temperature, (not warm to the touch as is usual after operation). Always maintain the specified tyre pressures.

Tightening Torques	**Nm**	**kgf.m**	**lbf.ft**
Wheel nuts – Five studded wheel variants	**75 to 95**	**7,5 to 9,5**	**55 to 70**
Six studded wheel variants	**155 to 180**	**15,5 to 18,0**	**114 to 132**